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IDEM Office of	Quality - Fileroom Stamp
VRP Project Name: <u>Reese Products</u>	
VRP#: <u>6460501</u>	File Code: <u>300</u>
Description: <u>GW Sampling Results</u>	
Confidential? <u> </u>	<u>X</u> No
Deliberative? <u> </u>	<u>X</u> No
<u> </u> Yes	

May 20, 1999

Reference No. 9852-02

Ms. Marilyn Glantz
Masco Corporation
21001 Van Born Road
Taylor, Michigan 48180

VIA
FEDEX COURIER

Dear Ms. Glantz:

Re: Source of Groundwater Contamination in
The Vicinity of the Former Reese Products Facility
Goshen, Indiana

Soil and groundwater data generated during more recent investigations at the Former Reese Products facility ("Site") in 1997 indicate that the extent of contaminated groundwater originating from reported waste disposal activities at this facility may not be as extensive as suspected. The current data suggest that potential source area(s) are located on the adjacent Goshen Cushion property (to the west) and that these potential sources are contributors to groundwater contamination.

The evidence used in identifying the additional groundwater sources in the vicinity of the Site includes groundwater flow data, analytical data from soil and groundwater samples, and waste handling records for the Goshen Cushion property. The specific evidence supporting the existence of another source(s) is discussed in greater detail below:

Groundwater Flow

Groundwater flow data indicates that contamination, originating from the Site source area migrates in a north to northeasterly direction. Groundwater flow does not move northwest towards the Goshen Cushion property in the vicinity of the reported Site source area. This is evident from the following:

- Groundwater flow contours generated using the more recent data (May 1997) indicate that groundwater beneath the Site flows primarily due north with a much smaller component of flow to the northwest (toward the Goshen Cushion Property) than previously reported (Figure 1). Groundwater flow does not move to the northwest in the vicinity of the reported Site source area.
- Groundwater elevations, calculated from monitoring wells and geoprobe water levels during the May 1997 sampling event, indicate an apparent groundwater high (or mound) located in the southeast corner of the Goshen Cushion property (Figure 1). Furthermore, a component of groundwater flow originating from this groundwater mound on the Goshen Cushion property flows onto the Former Reese Products facility

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in the vicinity of the Site source area. This further reduces the likelihood that the groundwater impacts observed downgradient on the Goshen Cushion Property originated from the reported Site source area.

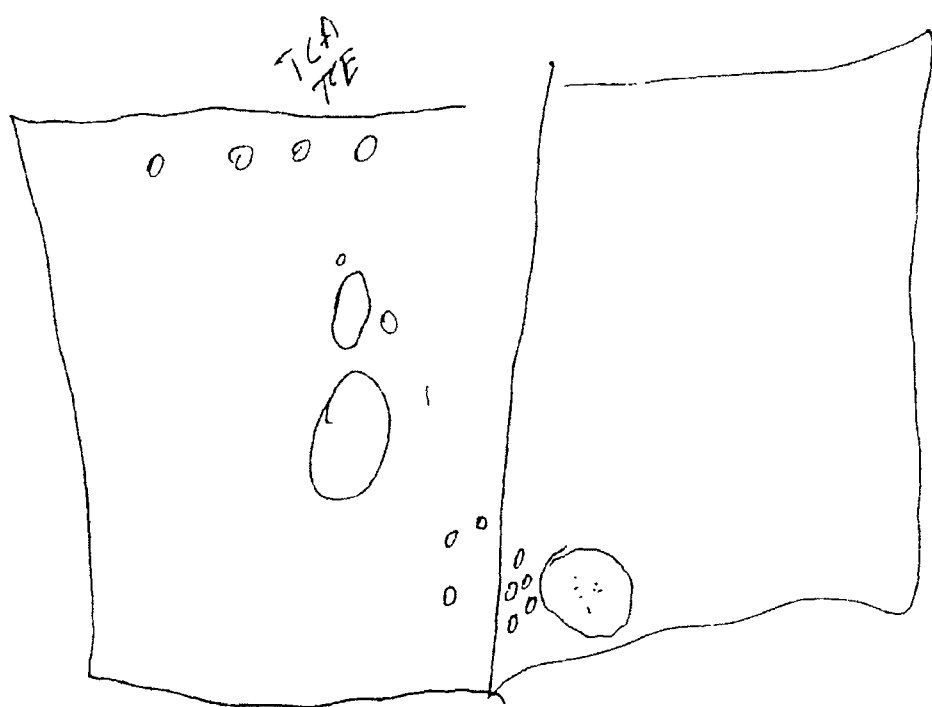
- Horizontal hydraulic gradients are very low (0.0007 ft/ft) and were determined using May 1997 groundwater elevation data between monitoring wells MW-2 and MW-5. Calculations using the geoprobe locations (MW-2 and G-10) yield an almost identical gradient (0.0005 ft/ft). It is unlikely, given the low hydraulic gradients, that groundwater transport would convey the high concentrations of contaminants downgradient to locations approximately 450 feet from the reported Site source area (Figures 3 and 4).

Soil and Groundwater Analytical Data

Soil and groundwater data indicate several differences between chemical compounds and concentrations observed at the reported Site source and the compounds and concentrations present at sampling points located on the Goshen Cushion Property. These differences indicate that the Volatile Organic Compounds (VOCs) detected in the groundwater on the Goshen Cushion Property are likely not related to the reported Site source area.

These observations are based on the following evidence:

- The lack of a continuous "plume" in any of the detected chemical constituents leading from downgradient locations back to the reported Site source area. If migration of contaminants had occurred from the reported Site source area, a distinct plume or at a minimum some plume remnant should be present in groundwater data.
- The concentrations of contaminants measured in soil at the reported Site source area (i.e. the source material) are several orders of magnitude lower than groundwater concentrations for these same compounds collected on the Goshen Cushion Property. Only trichloroethene (TCE) and 1,1,1-trichloroethane (111-TCA) have been detected routinely in soil samples collected near the reported Site source area with the highest soil concentrations associated with these compounds reported at 25 and 290 µg/kg, respectively.
- Although soil samples were not collected from the Goshen Cushion property during May 1997, downgradient groundwater samples contained concentrations as high as 4,200 and 280 µg/L, respectively, for these two compounds. It seems unlikely, given the moderate contaminant concentrations associated with the reported Site source



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area, that the elevated concentrations found in the groundwater located on the Goshen Cushion Property are attributable to the same source area.

- Groundwater samples collected downgradient of the Site (but on the Goshen Cushion property) displayed higher concentrations than groundwater concentrations for the same constituents collected near the reported Site source area (Figure 2). The highest groundwater concentrations near the reported source area in May 1997 were 4.0 and 69 µg/L for TCE and 111-TCA, respectively. Since the source area located on the Site has not been actively remediated or removed, higher groundwater concentrations in Site monitoring wells would be necessary to explain the elevated downgradient contaminant concentrations.
- Widespread detection of other compounds (benzene, xylenes, toluene, carbon disulfide, methylene chloride and 4 methyl-2-pentanone) in groundwater sampled on the Goshen Cushion property have not been detected in groundwater samples collected near the reported Site source area (Figure 2).

**Other Suspect Sources of Groundwater Contamination can be Identified
Based on Waste and Product Handling Records**

The potential for other source(s) of groundwater VOC contamination at locations west of the Site was evaluated through a Freedom of Information Act Request (FOIA). The request was submitted to the Indiana Department of Environmental Management (IDEM) for FOIA records pertaining to waste handling practices for the adjacent Goshen Cushion property. The FOIA information confirms that VOCs such as TCE and 111-TCA may have been used at this facility. In addition, potential sources of other VOC contamination (including benzene, toluene, and xylene) may exist on the Goshen Cushion Property. These observations are supported by:

- An Environmental Protection Agency Notification of Hazardous Waste Activity form indicates that Goshen Cushion Inc. produces a sufficient quantity of hazardous waste (F002) to qualify as a small quantity generator. The Goshen Cushion facility has produced between 100 and 1,000 kilograms of spent halogenated solvents per month. The spent halogenated solvents produced by Goshen Cushion Inc. potentially contained compounds identical to those detected in the groundwater on the Goshen Cushion property, including 111-TCA and TCE.
- Goshen Cushion Inc. (Facility ID: 7416) is also listed on the Leaking Underground Storage Tank Site Listing (Incident ID: 8908508) maintained by the Indiana Department of Environmental Management (IDEM). The listing indicates that the above-referenced incident is still active. The substance is listed as "Petroleum (Lust)". The source of benzene, toluene and xylene detected in groundwater on the Goshen Cushion Property may be related to this UST incident.

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Information pertaining to groundwater flow, soil chemistry, and groundwater quality provide evidence of an additional source(s) of VOCs on the property to the west of the Former Reese Products facility. This conclusion is further supported by the FOIA information, which indicates that the VOCs detected in the groundwater on the adjacent property have been handled as product or a waste material on the same property.

Should you have any questions regarding this information, please do not hesitate to contact me at (773) 380-9933.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES


Phil Harvey

PH/lo/9

Encl.

